housing limitations, the high and low level of concentrations, and the general formula. Applicant has amended the claims to specific compounds, namely cinnamic aldehyde or coniferyl aldehyde. Furthermore, support for the recited concentrations is found in the specification at col. 4, lines 25-28; col. 5, lines 61-62; col. 6, lines 5-6, 17-19, 35-36, 48-49, and 66-67; and col. 7, lines 18-20. Support for the housing limitations is found throughout the specification, for example, at col. 2, lines 2-3; col. 3, lines 45-48; and col. 4, lines 56-63. Applicants respectfully request that rejection of Claims 1-6, 16, and 18 under 35 U.S.C. § 112, first paragraph be withdrawn.

Provisional Double Patenting Rejection

Claims 1-6 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 54, 56-62 of co-pending Application No. 08/479,623. Claims 1-6 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 8, 25, 29–39, 41, 57, 61, 66-69, 71-75 of co-pending Application No. 08/860514. Claims 1-6 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-7, 14-16, 29-33 of co-pending Application No. 08/860499. Claims 1-5, 7-11 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-3, 5, 8, 10, 14-23, 39 of co-pending Application No. 08/336973. Claims 1-6 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 2, 5-10, 12-14, 16, 17, 19-22 of co-pending Application No. 09/431542.

The Applicants respectfully request that this issue be held in abeyance until otherwise allowable subject matter is found, at which point a terminal disclaimer will be filed.

Rejection under 35 U.S.C. §102(b)

Howell et al. 5102675

Claims 7, 12-14, 16 and 18 are rejected under 102(b) as being anticipated by Howell et al. Specifically, the Examiner argues that Howell discloses aromatic aldehydes such as coniferaldehyde are in oak. As the aldehydes must be extracted, they must be coupled or bound to the wood (cellulose). Applicants respectfully traverse this rejection.

An anticipation rejection requires that a single reference expressly or inherently disclose

each and every element of a claim. *In re Paulsen*, 31 USPQ2d 1671, 1673 (Fed. Cir. 1994); MPEP § 2131 (citing *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989)). Additionally, the reference must enable and describe the claimed invention "sufficiently to have placed it in possession of a person of ordinary skill in the field of the invention." 31 USPQ2d at 1673. To be enabling, the reference must teach the skilled artisan how to make and use the full scope of the claimed invention without undue experimentation. *See Genentech Inc. v. Novo Nordisk A/S*, 42 USPQ2d 1001, 1004 (Fed. Cir. 1997).

Howell is not relevant to the field of Applicant's invention, namely the control of pests. Instead, Howell discloses a method for producing oak in a divided form for producing an aged wine flavor. The Howell specification does disclose that aromatic aldehydes, such as coniferaldehyde, are released from oak upon prolonged contact with wine. Therefore, Howell, at most, may disclose a method of extracting aromatic aldehydes from oak chips.

Howell, however, does not disclose each and every element of the pending claims. Howell does not teach that aromatic aldehydes are suitable for use as bait for an insect or arachnid; nor does Howell teach that compositions containing aromatic aldehydes are suitable for use as a bait for an insect or arachnid. Accordingly, Howell does not expressly or inherently disclose each and every element of claims 7, 12-14, 16 and 18.

Armstrong 5149715

Claims 8-11 are rejected under 102(b) as being anticipated by Armstrong. Specifically, the Examiner argues that Applicant's "claimed limitations of 70% kill are within those of shown effective in the instant specification of the concentration of Armstrong."

Armstrong discloses the chemical control of fungal diseases, especially in mushroom production using cinnamon oil. Armstrong, however does not teach the use of a shampoo or soap comprising cinnamic aldehyde or coniferyl aldehyde to kill at least 70% or greater of a target insect or arachnid population as recited in claim 8. There is nothing in Armstrong to suggest that Applicant's claimed composition would be effective in killing insects and arachnids.

Furthermore, Applicant's claimed invention recites a soap or detergent formulation, which is not taught by Armstrong. Armstrong discloses the use of 1% Tween 80 as a surfactant. This

concentration of Tween 80 is not present in a concentration that would qualify as a detergent, otherwise the formulation would damage mushrooms. Accordingly, Armstrong does not expressly or inherently disclose each and every element of claims 8-11.

Metcalf and Lipman, Cinnamyl Alcohol and Analogs as Attractants for Corn Rootworms, J.Econ.Entomol. 82(6):1620-1625 (1989).

Claims 1, 3, 5, 7, 12, 14, 16 and 18 are rejected under 102(b). Specifically, the Examiner argues that Metcalf discloses 100 mg of cinnamic aldehyde or a methoxy analog in 1 liter cartons, without antioxidants, controlled diabrotica. The solid support was cotton dental attached to paper (cellulose).

Metcalf discloses that cinnamyl alcohol is an attractant to beetles. Metcalf does not disclose a method of killing termites, ants, mites, flies, and fleas, as recited in claim 1. Furthermore, Metcalf does not disclose the use of cinnamic aldehyde or coniferyl aldehyde as a bait for arachnids, flies, cockroaches as recited in claim 7. Accordingly, Metcalf does not expressly or inherently disclose each and every element of claims 1, 3, 5, 7, 12, 14, 16 and 18.

Ando, JP 266809

Claims 1-7, 12-14, and 16 are rejected under 102(b) as being anticipated by Ando. Specifically, the Examiner maintains that the claimed limitations of the cinnamic aldehyde cellulose-bound composition is met, and its in a house permitting cockroach egress and ingress.

Ando discloses adding a solution of cinnamic aldehyde to a paint base, and applying the paint composition to wood flooring to inhibit mold growth and repel cockroaches. Ando does not teach methods of killing termites, ants, mites, flies, and fleas as recited in claim 1. Furthermore, Ando discloses the mixture of cinnamic aldehyde with an oil based paint and paint thinner, and not the use of an aqueous composition.

Ando also teaches away from claim 7, which is directed to compositions suitable for use as bait for an insect or arachnid. A "bait" is used to attract the target organism. Since Ando, however, teaches that cinnamic aldehyde repels cockaroaches and ticks, a person of skill in the art would not use cinnamic aldehyde or coniferyl aldehyde as a bait for insects and arachnids.

Accordingly, Ando does not expressly or inherently disclose each and every element of claims 1-7, 12-14, and 16.

Saotome, FR 2529755

Claims 1-5, 8-11 are rejected under 102(b) as being anticipated by Satome. The Examiner argues that Saotome discloses the control of therips and nematodes, which are insects.

Saotome discloses the application of an aqueous solution containing cinnamic aldehyde to protect crops from microbes and therips and nematodes. Saotome does not disclose the use of cinnamic aldehyde or coniferyl aldehyde to kill termites, ants, mites, flies, and fleas as recited in Applicant's claim 1; and there is nothing in Saotome's disclosure that suggests that a composition comprising cinnamic aldehyde or coniferyl aldehyde would be effective in killing termites, ants, mites, flies, and fleas . Furthermore, Saotome does not disclose the use of soaps or shampoos containing cinnamic aldehyde or coniferyl aldehyde to kill at least 70% or greater of a target insect or arachnid population as recited in claim 8. Accordingly, Saotome does not expressly or inherently disclose each and every element of claims 1-5, 8-11

Dorman et al. 2465854

Claims 1-4, 7-14 are rejected under 102(b) as being anticipated by Dorman. The Examiner argues that Dorman discloses the use of cinnamic aldehydes to kill various insects. Furthermore, Dorman discloses solid supports such as powders and wood flour.

Dorman discloses compositions containing cinnamic aldehyde derivatives suitable for killing insects. For use as household insecticide, Dorman discloses mixing cinnamic aldehyde derivatives with light hydrocarbon oil, or mixed with solid materials such as wood flour, talc, etc. for dusting. Dorman further discloses that 3% cinnamic aldehyde (30 g/l) in kerosene can be used to kill 77% of flies.

Dorman does not disclose the use of an aqueous formulation of cinnamic aldehyde or coniferyl aldehyde as recited in claim 1, but instead include oil, such as a light hydrocarbon oil. Furthermore, Dorman's disclosed concentration of cinnamic aldehyde for use as an insecticide exceeds the concentrations of cinnamic aldehyde or coniferyl aldehyde recited in Applicant's claim

1.

Furthermore, while Dorman discloses mixing cinnamic aldehyde derivitatives with solid materials such as wood flour, Dorman does not disclose that cinnamic aldehyde or coniferyl aldehyde can be used as a bait for insects and arachnids, and therefore does not anticipate claim 7. Finally, Dorman does not disclose the use of a shampoo or soap containing cinnamic aldehyde or coniferyl aldehyde to kill at least 70% or greater of a target insect or arachnid population as recited in claim 8. Accordingly, Dorman does not expressly or inherently disclose each and every element of claims 1-4, 7-14.

Berke et al. 4525480

Claims 8-11 are rejected under 102(b) as being anticipated by Berke. The Examiner argues that Berke discloses "cinnamaldhyde, 4 to 1 with paraben preservatives . . . at the concentration shown by applicant to kill 70% of target population is used as a detergent (shampoo) composition at claim 8.

Berke discloses that compositions comprising cinnamaldehyde and parabens are effective in preventing the microbial spoilage of foods. Berke specifically teaches that susch compositions are effective against bacteria, yeast and mold. Berke does not teach the use of cinnamic aldehyde or coniferyl aldehyde, in a soap or detergent formulation, to kill at least 70% or greater of a target insect or arachnid population, as recited in claim 8. There is nothing in Berke to suggest that Applicant's claimed composition would be effective in killing insects and arachnids. Accordingly, Berke does not expressly or inherently disclose each and every element of claims 8-11.

CONCLUSION

In view of the above amendments and remarks, the Examiner is respectfully requested to withdraw the rejections and allow Claims 1, 4, 5, 7, 8, 10, 12-14, 16, and 18. Applicants believe the claims stand in condition for allowance. Applicants earnestly solicit such allowance.

If after review, the Examiner feels there are further unresolved issues, the Examiner is invited to call the undersigned at (415) 781-1989.

Dated: 1/23/02

Respectfully submitted,

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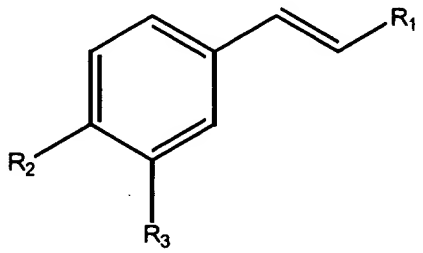
VERSION SHOWING CHANGES MADE

1. A method for killing [an insect or an arachnid] a population of pests selected from the group consisting of termites, ants, mites, flies, and fleas , said method comprising:

C1

contacting said [insect or arachnid] population of pests with an effective pest growth modulating amount of [a] an aqueous formulation comprising 0.01 g/l to [25] 10 g/l of one or more of compounds [of having a formula



wherein R_1 represents -CHO, R_2 represents -OH, -H or an organic substituent containing from 1 to 10 carbon atoms, and R_3 represents a methoxy group, -H or an organic substituent containing from 1 to 10 carbon atoms;] selected from the group consisting of cinnamic aldehyde or coniferyl aldehyde, and wherein said formulation does not contain an antioxidant other than an antioxidant according to said [formula] compounds.

2. **(Delete)** The method according to Claim 1, wherein said effective insect or arachnid growth modulating amount is 2.5 g/l to 12.5 g/l.

3. **(Delete)** The method according to Claim 1, wherein said one or more compounds are of cinnamic aldehyde or coniferyl aldehyde.

4. The method according to Claim [3] 1, wherein said aqueous formulation provides for about 70% or greater kill of said [insect or arachnid] pest population.

C2

5. The method according to Claim 1, wherein said aqueous formulation further comprises a

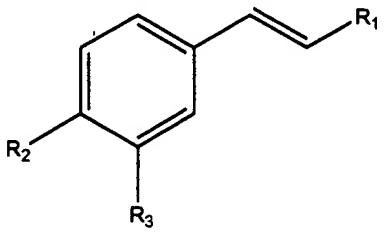
C3

salt of a polyprotic acid.

6. **(Delete)** The method according to Claim 1, wherein said insect or arachnid population is selected from the group consisting of a cockroach, an ant, and a mite.

7. A composition suitable for use as bait for [an insect or] the group of pests consisting of arachnids, flies, cockroaches, and termites comprising:

one or more compound [having a formula

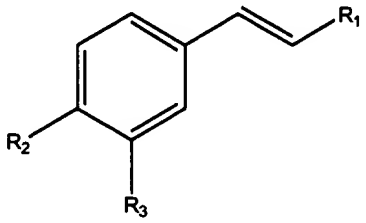


wherein R_1 represents -

CHO, R_2 represents -OH, -H or an organic substituent containing from 1 to 10 carbon atoms, and R_3 represents a methoxy group, -H or an organic substituent containing from 1 to 10 carbon atoms] selected from the group consisting of cinnamic aldehyde or coniferyl aldehyde, wherein said composition is coupled to a solid support [or encapsulated].

8. A composition suitable for use as a shampoo or a soap, said composition comprising:

one or more compound [of a formula



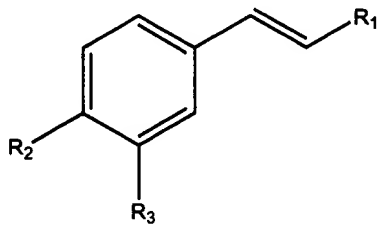
wherein R_1 represents -

CHO, R_2 represents -OH, -H or an organic substituent containing from 1 to 10 carbon atoms, and R_3 represents a methoxy group, -H or an organic substituent containing from 1 to 10 carbon atoms] selected from the group consisting of cinnamic aldehyde or coniferyl aldehyde, in a soap or detergent formulation, in an amount sufficient to provide a kill of

about 70% or greater of a target insect or arachnid population.

9. **(Delete)** The composition according to claim 8, wherein said one or more compounds are cinnamic aldehyde or coniferyl aldehyde.

10. The composition according to claim [9] 8, wherein said composition is free of antioxidants other than said compounds [of a formula

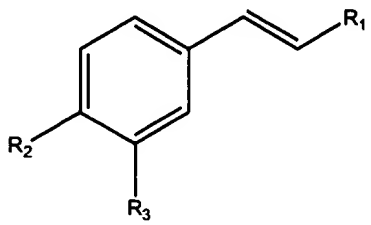


wherein R_1 represents -
CHO, R_2 represents -OH,
-H or an organic substituent containing from 1 to 10 carbon atoms, and R_3 represents a methoxy group, -H or an organic substituent containing from 1 to 10 carbon atoms].

11. **(delete)** The composition according to Claim 10, wherein said composition comprises compounds of cinnamic aldehyde and coniferyl aldehyde.

12. A composition according to Claim 7, wherein said solid support comprises cellulose.

13. A composition according to Claim 12, wherein said [one or more] compound [of the formula



wherein R_1 represents -

CHO, R_2 represents -OH, -H or an organic substituent containing from 1 to 10 carbon atoms, and R_3 represents a methoxy group, H or an organic substituent containing from 1 to 10 carbon atoms,] is reversibly coupled with said cellulose.

14. The composition according to Claim 12, wherein said composition is coupled to said solid support via a cellulose binding domain.

16. The composition according to Claim 7, wherein said solid support is enclosed in a housing having means of ingress and egress for said [insect or arachnid] group of pests.

18. The composition according to Claim 7, wherein a chemoattractant for said [insect or arachnid] group of pests is associated with said solid support.